DOCUMENT RESUME

ED 113 378 95 TM 004 876

AUTHOR Anderson, Linda Mahaffey; And Others
TITLE The Student Attribute Study: Relationships between Classroom Observation Measures and Teacher Attitudes of Attachment, Rejection, and Concern.
INSTITUTION Texas Univ., Austin. Research and Development Center for Teacher Education.
SPONS AGENCY National Inst. of Education (DHEW), Washington, D.C.
REPORT NO R-75-13
CONTRACT NIE-C-74-0089; OEC-6-10-108
NOTE 38p.

EDRS PRICE MF-$0.76 HC-$1.95 Plus Postage
DESCRIPTORS *Classroom Observation Techniques; Classroom Research; Correlation; Elementary Education; Expectation; Student Behavior; *Student Characteristics; Student Evaluation; *Student Teacher Relationship; *Teacher Attitudes; *Teacher Behavior
IDENTIFIERS *Student Attribute Study

ABSTRACT

One of a series of reports from a larger investigation entitled "The Student Attribute Study," the present paper discusses classroom observation data collected in this study concerning the interactions between teachers and students who had been previously identified as objects of teacher attachment, concern, or rejection. The Student Attribute Study as a whole was designed to follow up on earlier work relating teacher expectations and attitudes to differential teacher behavior with different kinds of students. In part, it has been a replication and extension of previous work identifying important expectations and attitudes that teachers hold and relating these to differential treatment of different students. In addition, it represents a movement in focus from identifying differential teacher-student interaction patterns related to teacher attitudes and expectations toward investigation of differential student attributes and behavior which presumably trigger these differential teacher expectations and attitudes in the first place. Thus, in addition to identifying differential teacher-student interaction related to teacher attitudes and expectations, the Student Attribute Study tries to answer the question "What student attributes do teachers notice and use in forming expectations and attitudes?" (Author/RC)

****
* Documents acquired by ERIC include many informal unpublished *
* materials not available from other sources. ERIC makes every effort *
* to obtain the best copy available. Nevertheless, items of marginal *
* reproducibility are often encountered and this affects the quality *
* of the microfiche and hardcopy reproductions ERIC makes available *
* via the ERIC Document Reproduction Service (EDRS). EDRS is not *
* responsible for the quality of the original document. Reproductions *
* supplied by EDRS are the best that can be made from the original. *
****

ED113378

The Student Attribute Study:

Relationships between Classroom Observation Measures and Teacher Attitudes of Attachment, Rejection, and Concern

Linda Mahaffey Anderson,
Jere E. Brophy,
Carolyn M. Evertson,
W. John Crawford,
and
Michael C. Baum

U.S. DEPARTMENT OF HEALTH, EDUCATION & WELFARE
NATIONAL INSTITUTE OF EDUCATION
THIS DOCUMENT HAS BEEN REPRODUCED EXACTLY AS RECEIVED FROM THE PERSON OR ORGANIZATION ORIGINATING IT. POINTS OF VIEW OR OPINIONS STATED DO NOT NECESSARILY REPRESENT OFFICIAL NATIONAL INSTITUTE OF EDUCATION POSITION OR POLICY

Report No. 75-13
Research and Development Center for Teacher Education
The University of Texas at Austin
May, 1975

TM004 876

This project was supported by the National Institute of Education Contract OEC 6-10-108, Research and Development Center for Teacher Education, and by Contract NIE-C-74-0089, Correlates of Effective Teaching. The opinions expressed herein do not necessarily reflect the position or policy of the National Institute of Education and no official endorsement by that office should be inferred.

This is one of a series of reports from a larger investigation entitled "The Student Attribute Study." The present paper discusses classroom observation data collected in this study concerning the interactions between teachers and students who had been previously identified as objects of teacher attachment, concern, or rejection. Other reports from this project will discuss teacher interactions with other types of students as well as sex and grade differences and other matters.

The Student Attribute Study as a whole was designed to follow up on earlier work relating teacher expectations and attitudes to differential teacher behavior with different kinds of students. In part, it has been a replication and extension of previous work identifying important expectations and attitudes that teachers hold and relating these to differential treatment of different students. In addition, it represents a movement in focus from identifying differential teacher-student interaction patterns related to teacher attitudes and expectations towards investigation of differential student attributes and behavior which presumably trigger these differential teacher expectations and attitudes in the first place. Thus, in addition to identifying differential teacher-student interaction related to teacher attitudes and expectations, the Student Attribute Study tries to answer the question "What student attributes do teachers notice and use in forming expectations and attitudes?"

Background of the Study

Research on teacher expectation effects was stimulated by Rosenthal and Jacobson's book, Pygmalion in the Classroom (1968), in which they concluded that teacher expectations about student achievement may influence student performance on achievement tests. Although their findings have never been replicated directly, numerous other studies since then have demonstrated that teacher expectations and attitudes do systematically affect classroom interactions with students (for a review, see Brophy and Good, 1974). Much of the research in the area since has focused on identifying the processes through which teachers communicate differential expectations and attitudes, basically by observing and systematically measuring teacher-student interaction in the classroom. Initially, the major thrust was directed towards teacher expectations, but more recently systematic investigations of teacher attitudes have been conducted.

Silberman (1971) initiated one such series of studies with an investigation of four particular teacher attitudes: attachment, rejection, concern, and indifference. The Student Attribute Study, along with previous work by Jenkins (Note 1) and by Good and Brophy (1972), have continued in the tradition established by Silberman's work.

In getting teachers to identify attitude-groups, Silberman used forms calling for nominations of individuals. Attachment children were identified by asking teachers to name students whom they would like to keep for another year for the "sheer joy of it," rejection children were those named in response to the question, "If your class could be reduced

by one child, who would you be most relieved to have removed?," and concern children were named in response to, "If you could devote all your attention to a child who concerns you a great deal, whom would you pick?"

Classroom observations of these groups of children and their interactions with teachers have revealed consistent and distinct pictures of the three groups. Attachment children, those whom the teacher would like to keep for the "sheer joy of it," were mostly high achieving, cooperative children who did not cause behavior problems. Silberman (1969) found that they received more positive evaluation from the teacher than other students, and more acquiescent replies to requests. However, he felt that overt expressions of attachment by the teacher were suppressed, so that there was minimal evidence of favoritism.

Good and Brophy (1972) found that attachment children initiated more work contacts with the teacher, called out answers less often, gave more correct answers when called upon, and had fewer behavioral contacts than others in the class. Again, however, there was little evidence of overt favoritism. In fact, the attachment students had fewer contacts initiated by the teacher. However, they were given more reading turns and more difficult, thought-provoking questions, though with less explanatory feedback.

Children identified by their teachers as being objects of concern were found by Silberman (1969) to receive more contacts with the teacher and more acquiescence to requests when compared to other children in the classroom. He felt that the teachers observed were very open in their expressions of concern for this particular group of children. Good and

Brophy (1972) reported that concern students tended to be low achievers, and that several teacher behaviors indicated efforts to help them. The students had more response opportunities, were sought out by the teacher for private interactions more often than other children, and were given more detailed, explanatory feedback by the teacher to their answers. When an answer was wrong, the teacher was more likely to simply repeat the question than to give extra help, perhaps implying an effort to push these children to better performance. The children themselves were more willing to make a guess at an answer rather than remain silent, compared to their classmates.

Silberman (1969) reported that rejection children received more total contacts, more praise, and more criticism, but less acquiescence. However, when the effects of criticism were held constant, the other variables were not significant. Silberman therefore concluded that the primary expression of rejection was frequent negative evaluation and criticism. Good and Brophy (1972) also reported that rejection students received more criticism, both overall and during child initiated work contacts.

Teachers were especially likely to fail to give these students feedback following their responses. Also, these students were given fewer reading turns and got fewer response opportunities by volunteering (although it is not clear whether this was due to failure to volunteer or ignoring of volunteering by the teacher). Rejection children were more active in the classroom, initiating more procedure and work contacts with the teacher. They also called out without permission more often, and created more behavior contacts than other children.

The three attitude groups therefore are distinct from one another in many respects, but several questions remain unanswered. Of interest to this paper is the question of what specific child behaviors distinguish the concern child from the rejection child. Although teacher behaviors toward these two groups obviously are different, previous studies have not demonstrated that the difference between the children's behaviors were great enough to warrant such vastly different treatment.

Indeed, Jenkins (Note 1) found that student behaviors were not as good predictors of attitude groups as were teacher perceptions of those behaviors, even though in many cases perceptions were not closely related to behaviors.

This raises the question of what produces a particular attitude toward a student: actual student behaviors, or a more complex interaction also involving teacher perceptions and preferences? Since teacher attitudes are associated with differential treatment of different students, it is important to examine the cases and processes of their formation. It should be understood that the purpose of this research was not to demonstrate the inadequacies or injustices of teachers. The authors do not view teachers as ogres who dislike all but the most compliant children. However, we do view teachers as human beings who quite naturally form attitudes and expectations about the children with whom they work everyday. It is to a teacher's advantage, and ultimately to a child's, that the mechanisms of attitude formation and change in the classroom be explained and predicted. When teachers understand exactly what it is about a certain child that causes them to respond to the child in a certain way, they will be in a better position to respond optimally. Behavior by rejected children often

sets off a vicious cycle of reaction by the teacher which does not modify that child's behavior, but may indeed further agitate it. Therefore, we entered this research with the perspective that expectations are natural and that teachers usually are justified in their emotional reactions to children. Teachers should not feel guilty about disliking a child's behavior, but they should be able to cope with their own reactions in ways that help the child modify his or her behavior to elicit more favorable responses from adults. Therefore, a special purpose of the study was to define in objective terms the behaviors that cause certain children to be rejected by teachers.

Methodology

Teachers in four elementary schools in Austin, Texas, were asked to rank each of their children on 13 bipolar scales of teacher expectations and attitudes. The two scales which are pertinent to this paper are those for attachment versus rejection and concern versus lack of concern. These were presented to the teachers as continua along which they ranked everyone in their class. The positive end of the attachment scale was labeled "Would like to keep for another year for the sheer joy of it," and the negative end was labeled "Would like to have removed from my class." Therefore, children ranked high on this scale were considered to be attachment children, and students ranked low on this scale were considered to be rejection children.

The concern scale was labled at one end as "Concerns me a great deal; I would like to be able to devote much more attention to," and at the other

end as "doesn't require special attention." Children ranked high on this scale were considered the concern group. Those ranked low on this scale were not treated as an "attitude group," because we felt that such rankings did not reflect lack of concern by teachers. Instead, these children seemed to be well adjusted to school and thus were ranked low because teachers had no reason to be especially concerned or worried about them, not because the teachers did not care about them.

Three sets of rankings were completed for each class the first year, and the next year the teachers of the same children completed the same scales twice. During the last quarter of the second year, children that were seen consistently by each of the two teachers on one or more scales were observed in the classroom. Therefore, these "target children" were consistently identified by two teachers as being objects of attachment, rejection, or concern. Placement on either scale was independent of the other, so that any combination of attachment versus rejection and concern versus lack of concern was possible.

The present analysis concerns 207 children who were consistent on the scale of teacher concern and 201 children who were consistent on the scale of attachment versus rejection. They were in grades two through five at the time of observation.

The observational system used to collect behavioral data was the Student Attribute Coding System (Brophy, et. al., Note 2), which was designed specifically for this study. Information was recorded for each target child twice a week for six weeks during the second semester for every observed interaction between that child and the teacher. The interaction was classified as to initiator (teacher or student) and content (whether it dealt with work, personal, social, or housekeeping needs, or behavioral contacts).

The work interactions also were classified as being either public (before other children) or private (only between the teacher and the child).

In addition, the emotional level of the response of the non-initiator was recorded. For example, if a teacher approached a child with a behavioral correction and the child responded sullenly, this sullen reaction was noted in the coding system as such. Or, if a child approached the teacher with a personal request and the teacher responded in a happy, pleasant manner or in an impatient, irritable way, the teacher's response was noted accordingly. Essentially, the coding system measured not only the type of interaction, but also any emotional quality beyond routine, neutral responses.

Classroom observers (undergraduate and graduate students) were trained in the use of the coding system, initially through discussions and practice coding of sample classroom transcripts, but eventually through coding in the actual classrooms, working in pairs. This practice coding continued until each coder reached a criterion of 80% agreement with another coder across the categories of the system. Once individual coders reached this reliability criterion, they then coded individually and their data were used for the analyses to be reported.

Although coders were aware of the general nature of the project and the reasons for selection of target students, neither they nor the teachers knew which of the 13 teacher expectation and attitude scales a student had been consistent on. Thus, although coder observation data may have been influenced to some degree by halo effects and other sources of coder bias (but not much, because the system was basically a low inference one), the

biases could not have been systematically related to the groupings of students, because the coders were not aware of these groupings.

The methodology of this study is innovative in two ways. First, the target children were identified over time and over two different teachers, whereas previous studies had taken measures of these attitudes from only one teacher during one year. Second, the coding system measured many particular behaviors not considered in previous work, and it measured the affective component of interactions in addition to describing the content.

Results

Data analyses involved F-tests performed for each behavioral variable, using the high, medium, and low positions of each attitude scale as classifying variables for one-way, three group analyses of variance in the process behavior measures. Children in the three respective attitude groups were compared directly to one another, and also to the larger mass of children not in any of these groups. The results will be presented as sets of variables which discriminate between the three attitude groups.

Insert Table 1 About Here

The first set describes attachment children as having different behaviors from both rejection and concern children. The attachment children tended to have a larger percentage of public rather than private work contacts, were more likely to have volunteered when called upon in public, had

fewer behavioral contacts, were less likely to respond to behavior contacts with sullenness, had fewer contacts initiated by the teacher, and fewer total contacts overall. The rejection and concern children showed the opposite behaviors. That is, they had more private than public work contacts, were less likely to have volunteered when called upon in public, had more behavioral contacts to which they were more likely to have responded with sullenness, had more contacts initiated by the teacher, and more total contacts overall.

These results are supportive of previous descriptions of attachment children as academically active students who do not require a lot of teacher attention. The concern and rejection groups of children are shown to be similar in that they place more demands on teachers and require more attention of them.

The next two sets of behaviors are those which were related to one of the two scales but not to the other. They come from analyses comparing children on one scale with all other children. The following behaviors were associated with the concern scale but showed non-significant results for the attachment versus rejection scale. Concern children tended to have less negatively-toned behavioral corrections in some situations, having more non-verbal and routine verbal corrections, as opposed to irritable verbal ones. However, they were more likely to be held up before the class as bad examples. They also had a higher percentage of child-initiated contacts than other children.

A third set of behaviors discriminated between attachment and rejection children, but were not significantly related to the concern scale. The results indicate a cycle of negative interactions occurring between the

teacher and the rejection child, with both parties contributing to the negative tone. Rejection children tended to have higher percentages of teacher criticism in teacher-initiated work contacts, and they also had higher percentages of negative child reactions to these teacher initiations. They had fewer housekeeping (monitoring) assignments from the teachers, and they had more of their own requests for such jobs and personal requests refused. They were more likely to respond to personal comments and social initiations by the teacher with negative affect, and the teacher was more likely to respond to contacts initiated by them with impatience. There also was more total work criticism and total negative evaluation of rejection children by the teachers.

The behavioral corrections delivered to rejection children also tended to be more negative and more severe, but then the child's behavior leading to such corrections tended to be more disruptive. Rejection children also had higher frequencies of aggression toward the teacher by griping or sassing, and more non-interactive antisocial behaviors such as cheating and leaving without permission. Again, remember that these behaviors discriminated between attachment and rejection children. This pattern of interaction was not found for concern children, even though they resembled rejection children in some other ways.

Discussion

The conclusions from these results are striking, in that clear cut distinctions are again apparent between the three groups. More importantly, rejection and concern children were shown to be two distinct groups.

The data for the rejection group indicate a cycle of negativity in which the teacher and the child seem to be feeding each other's rejection. The child's behaviors are an important part of the cycle. Negative reactions to teacher initiations, higher frequencies of sassing and griping, and higher frequencies of disruptive misbehavior are part of a pattern which "turns off" teachers and leads them to reject these children.

These results seem obvious, appealing to common sense. They will come as little surprise to those familiar with classrooms and students. However, their importance lies in the fact that previous research in this area had not demonstrated so clearly the student's role in the formation of expectations and attitudes. Communication of such empirical results in teacher preservice and inservice training can help prepare teachers for classroom problems in a more realistic manner. Rather than encouraging teachers to love and accept all children regardless of their behavior, teachers can learn to look for and identify child behaviors which could set off unfortunate cycles of rejection by adults. By recognizing such behaviors and their own natural reactions to them, teachers might then take steps to help children modify their behavior, rather than responding to it in a manner which perpetuates it.

A previous intervention study (Good and Brophy, 1974) has shown that teachers can and will modify their differential treatment of students when informed about behaviors which are inappropriate. More research is needed with such interventions, to determine if changes in the less desirable behavior patterns of rejection children occur in response to modified teacher behaviors.

In contrast to the data for rejection students, concern students were shown to be teacher oriented and dependent rather than hostile and sullen. Although they were similar to the rejection students in that they provided problems for the teachers, these problems lay in the area of low achievement and difficulty in doing independent work, not in misbehavior or hostility. Thus, these children were behaving in acceptable ways and perhaps even were providing the teachers with reinforcement in the form of gratitude and/or signs of progress when teachers responded to their needs for extra help. In any case, the data reveal that concern and rejection students are much more different than previous investigations had shown, and that the differences make good psychological sense.

The data for attachment students support previous findings by indicating little evidence of clear cut teacher teacher favoritism toward these students in process measures of classroom interaction. The vast majority of significant differences between these students and their classmates were in measures of behavior by the students themselves, not behavior by the teachers. Furthermore, the behaviors of the students revealed them to be high achievers, independent workers, and apparently well adjusted and well behaved individuals, so that it is not surprising that teachers find them attractive.

It is worth noting that teachers have fewer overall contacts with these students, contrary to what some might expect for students high on a teacher attachment measure. However, other work of our own has suggested that when teachers see students as independent and capable of handling themselves, they tend to let these students do so, rather than to spend

extra time with them. The point here is that quantity of contacts between teachers and students should not be equated with positive teacher attitudes or even with a positive teacher-student relationship. We are finding regularly that sheer frequency of teacher-student contact is related more to teachers' perceptions that certain students need extra help or extra monitoring because of their potential for misbehavior. While it is true that in some cases teachers may be avoiding certain students that they dislike, low teacher-student contact frequencies are more apt to represent good rather than bad teacher attitudes toward students.

Another interesting point concerning attachment students is that, although they seldom gave teachers reason to criticize them for misbehavior, they also were less likely to respond with sullenness during the behavior contacts that they did have. Thus, the attachment students and the rejection students provided evidence of contrasting reinforcement of the teachers. In short, attachment students acted in ways that would reinforce the teachers for liking them, and rejection students acted in ways that would reinforce the teachers' tendencies to dislike them.

Data like these indicate that the self-fulfilling prophecy effects noted in teacher-student relationships are not unidirectional; teacher expectations and attitudes toward students are shaped by differential behavior of the students themselves. This process goes on concurrently and in interaction with the process of teacher shaping of student behavior by differential treatment resulting from differential teacher expectations and attitudes.

Research into these processes is just beginning, and we are hopeful that this study will reveal additional complexities of this sort to help roound out the picture of classroom dynamics and ultimately yield data that teachers and teacher educators can use in optimizing interactions with students.

Reference Notes

1. Jenkins, B. Teachers' views of particular students and their be-behavior in the classroom. Unpublished doctoral dissertation, The University of Chicago, 1972.

2. Brophy, J., King, D., Evertson, C., Baum, M., Crawford, J., Mahaffey, L., and Sherman, G. The Student Attribute Coding System. (Res. Rep. 74-2). Austin, Texas: Research and Development Center for Teacher Education, 1974.

References

Brophy, J. and Good, T. Teacher-student relationships: Causes and consequences. New York: Holt, Rinehart and Winston, 1974.

Good, T. and Brophy, J. Behavioral expression of teacher attitudes. Journal of Educational Psychology, 1972, 63, 617-624.

Good, T. and Brophy, J. Changing teacher and student behavior: An empirical investigation. Journal of Educational Psychology, 1974, 66, 390-405.

Rosenthal, R. and Jacobson, L. Pygmalion in the classroom. New York: Holt, Rinehart and Winston, 1968.

Silberman, M. Behavioral expression of teachers' attitudes toward elementary school students. Journal of Educational Psychology, 1969, 60, 402-407.

Footnotes

This paper is an expansion of a paper delivered by author Mahaffey at the annual meeting of the Southwestern Psychological Association, 1975.

Requests should be sent to Dr. Jere E. Brophy, Department of Educational Psychology, The University of Texas at Austin, Texas 78712.

Direct quotes from this report should not be made without permission from the authors since this is a preliminary report which will be integrated later with other data from the larger study.

Table 1

Relationships between Teacher Nominations to High, Medium, and Low Concern and Attachment Groups and Classroom Process Data[1]

	Attachment (Would like to keep)				Concern (Requires special attention)			
	Low	Medium	High	p[2]	Low	Medium	High	p[2]
Proportion of:								
1. dyadic contacts which were response opportunities	44.5	50.6	53.6	**	52.5	50.6	46.6	**
2. response opportunities occurring in small groups	51.7	51.5	48.6		47.8	51.0	50.0	
3. response opportunities occurring in general class	48.3	48.5	51.4		52.2	49.0	50.0	
Small Group Data								
4. small group response opportunities given non-volunteers	54.3	52.4	47.2	*	45.5	51.5	52.8	**
5. non-volunteers called on in small groups given praise	49.6	47.8	53.8	*	50.4	49.1	48.7	
6. non-volunteers called on in small groups given criticism	48.9	50.0	49.1		49.1	49.9	50.5	
7. small group response opportunities given volunteers	47.3	47.9	53.4	**	54.4	49.8	46.3	**
8. volunteers called on in small groups given praise	51.2	53.1	48.2		49.0	49.9	49.7	
9. volunteers called on in small groups given criticism	49.4	49.6	50.5		49.4	50.9	49.4	
10. small group response opportunities given waving volunteers	50.6	48.4	50.4		50.8	48.1	51.6	

	Attachment (Would like to keep)				Concern (Requires special attention)			
Proportion of:	Low	Medium	High	p	Low	Medium	High	p
11. waving volunteers called on in small group given praise	-	-	-		-	-	-	
12. waving volunteers called on in small group given criticism	-	-	-		-	-	-	
13. small group response opportunities given to called-out answers	47.6	49.0	50.3		49.8	49.8	50.3	
14. called-out answers in small groups given praise	47.6	53.2	49.0		48.8	50.7	53.2	
15. called-out answers in small groups given criticism	48.5	50.3	52.3		49.7	49.9	48.6	
16. small group response opportunities given praise	49.0	52.6	49.3		49.8	49.6	48.8	
17. small group response opportunities given criticism	48.1	49.9	50.8		48.7	49.2	48.5	
General Class Data								
18. general class response opportunities given non-volunteers	52.3	50.7	47.2	*	46.0	51.1	54.1	**
19. non-volunteers called on in general class given praise	51.2	48.8	49.9		49.2	48.9	50.7	
20. non-volunteers called on in general class given criticism	49.5	48.9	50.5		50.1	49.2	49.0	

	Attention (Would like to keep)				Concern (Requires special attention)			
Proportion of:	Low	Medium	High	p	Low	Medium	High	p
21. general class response opportunities given volunteers	47.9	48.7	54.1	**	54.1	49.3	47.4	**
22. volunteers given praise in general class	48.9	52.5	48.6		49.7	50.9	50.3	
23. volunteers given criticism in general class	49.1	50.2	49.1		50.0	51.2	48.9	
24. general class response opportunities given waving volunteers	50.0	49.8	51.7		50.0	49.6	50.0	
25. waving volunteers given praise in general class	48.6	51.1	50.0		50.0	50.0	48.3	
26. waving volunteers given criticism in general class	50.0	50.0	50.0		50.0	50.0	50.0	
27. general class response opportunities given to called-out answers	52.0	50.2	48.2		49.8	49.5	50.3	
28. called-out answers in general class given praise	48.3	49.1	52.2		49.1	50.2	51.2	
29. called-out answers in general class given criticism	51.0	48.3	48.5		50.1	50.7	48.8	
30. general class response opportunities given praise	47.0	51.3	49.3		50.5	48.8	49.3	
31. general class response opportunities given criticism	50.1	48.9	48.9		49.5	50.7	47.8	

	Attention (Would like to keep)				Concern (Requires special attention)			
	Low	Medium	High	p	Low	Medium	High	p
Total Response Opportunities								
Proportion of:								
32. response opportunities in which volunteers, waving volunteers, and called-out answers received praise	47.6	51.6	49.1		49.0	50.0	49.4	
33. response opportunities in which volunteers, waving volunteers, and called-out answers received criticism	48.5	49.4	49.7		49.6	51.1	47.8	
34. response opportunities in which non-volunteers received praise	50.1	50.4	50.2		51.1	48.3	50.3	
35. response opportunities in which non-volunteers received criticism	50.8	49.3	49.5		49.3	49.5	49.1	
36. dyadic contacts which were teacher afforded	51.7	49.7	50.7		49.1	48.6	51.4	
37. public and private work contacts which were private	54.6	49.5	47.6	**	48.2	49.7	52.7	*
38. all public and private work contacts, including approval seeking which were private	54.6	49.5	47.4	**	48.2	49.6	53.0	*
39. all dyadic contacts (excluding behavior) which were private non-academic	53.5	49.4	47.3	**	49.6	48.7	52.6	
40. teacher afforded contacts which were work related	51.9	50.7	48.8		48.4	51.0	50.4	

	Attention (Would like to keep)				Concern (Requires special attention)			
	Low	Medium	High	p	Low	Medium	High	p
Proportion of:								
41. teacher afforded work contacts given praise	49.9	50.6	48.4		48.8	50.1	50.7	
42. teacher afforded work contacts given criticism	55.7	50.5	46.6	**	49.9	50.3	50.0	
43. teacher afforded work contacts in which child has a positive reaction	48.5	51.1	49.5		49.9	49.0	48.9	
44. teacher afforded work contacts in which child has a negative reaction	53.1	49.9	48.5	*	51.1	49.1	50.2	
45. teacher afforded work contacts which were observations of work	50.3	49.2	50.5		50.4	50.7	47.6	
46. teacher afforded work contacts which were brief	50.2	51.0	49.7		48.9	49.5	52.1	
47. teacher afforded work contacts which were long	49.8	49.2	50.0		50.5	50.1	49.9	
48. teacher afforded contacts which were housekeeping	45.8	49.3	51.5	**	52.3	48.8	48.9	
49. teacher afforded housekeeping contacts which were routine	50.9	50.5	50.5		48.9	50.6	50.1	
50. teacher afforded housekeeping contacts in which child received thanks	48.7	49.3	48.4		50.3	49.7	49.2	

	Attention (Would like to keep)				Concern (Requires special attention)			
Proportion of:	Low	Medium	High	p	Low	Medium	High	p
51. teacher afforded housekeeping contacts which served as rewards	50.2	49.8	50.9		50.9	49.0	50.5	
52. teacher afforded contacts which were personal	52.9	49.4	49.4		50.1	49.9	50.9	
53. teacher afforded personal contacts which were routine	48.7	51.8	51.3		52.3	50.0	50.6	
54. teacher afforded personal contacts to which child responded with a positive reaction	49.4	50.7	49.9		48.2	50.7	49.3	
55. teacher afforded personal contacts to which child responded with a negative reaction	52.3	47.2	48.5	**	49.4	49.4	49.8	
56. teacher afforded contacts which were social	48.5	49.4	50.6		51.3	50.5	48.7	
57. teacher afforded social contacts which were routine	54.0	49.4	51.1		46.6	49.2	56.1	*
58. teacher afforded social contacts to which child responded with a positive reaction	47.3	50.8	47.6		52.2	50.5	44.4	
59. teacher afforded social contacts to which child responded with a negative reaction	48.0	49.7	51.1		51.0	50.8	49.3	

Behavior Related Contacts	Attention (Would like to keep) Low	Medium	High	p	Concern (Requires special attention) Low	Medium	High	p
Proportion of:								
60. dyadic contacts which were behavioral contacts	57.2	49.3	45.6	**	45.6	50.4	53.8	**
61. behavioral contacts which were typical misbehaviors (i.e., individually inappropriate, social chat, disruptive, and deliberate trouble making)	49.9	50.2	47.3		48.8	49.7	49.9	
62. typical misbehaviors (see #61) which were non-disruptive (i.e., individually inappropriate and social chat)	46.9	48.7	52.3	*	52.2	50.0	49.2	
63. typical misbehaviors (see #61) which were disruptive (i.e., disruptive and deliberate trouble making)	53.1	51.3	47.7	*	47.8	50.0	50.9	
64. behavioral contacts which represented aggression toward the teacher (i.e., griping and sassing/defying)	53.1	50.9	47.3	*	49.7	48.9	50.1	
65. behavioral contacts which represented aggression toward peers (i.e., bossing, bullying, verbal and physical aggression)	50.6	49.8	50.7		48.4	50.4	50.6	
66. behavioral contacts which represented poor coping behavior or emotional over-reaction (crying and pouting/sulking)	48.7	49.3	49.9		49.4	49.5	49.9	
67. behavioral contacts which were non-interactive, anti-social misbehaviors (cheating + sleeping + vomiting)	53.1	49.4	48.8	*	48.8	50.8	51.1	

	Attention (Would like to keep)				Concern (Requires special attention)			
Proportion of:	Low	Medium	High	p	Low	Medium	High	p
68. behavioral contacts which represented behavioral praise	48.4	50.1	52.7		51.4	49.0	50.2	
69. behavioral contacts responded to with non-verbal intervention	50.0	48.6	50.6		48.2	49.5	52.2	
70. behavioral contacts responded to with management interventions	50.6	50.0	50.3		51.3	49.0	49.3	
71. behavioral contacts responded to with warning interventions	51.9	50.1	45.9	**	46.8	51.1	50.9	*
72. behavioral contacts responded to with threat interventions	52.3	51.0	48.0		48.3	50.8	49.1	
73. behavioral contacts responded to with criticism	52.4	51.0	47.4	*	46.7	51.6	49.9	*
74. behavioral contacts which were of a negative nature	52.2	50.4	46.9	*	46.8	51.3	49.8	*
75. behavioral contacts in which child responds by being cowed	51.1	49.0	48.9		49.6	51.1	48.5	
76. behavioral contacts in which child responds by being sullen	53.5	50.8	46.9	**	47.6	50.9	52.7	*
77. behavioral contacts and adult critical incidents which were positively reinforcing	47.5	51.0	51.7		51.5	49.2	50.4	
78. misbehaviors coded to which the teacher responded	49.8	50.9	49.0		49.1	51.0	48.7	

	Attention (Would like to keep)				Concern (Requires special attention)			
Proportion of:	Low	Medium	High	p	Low	Medium	High	p
79. typical misbehaviors (see #61) disciplined by management	49.6	49.8	52.6		53.7	48.3	49.0	*
80. typical misbehaviors (see #61) disciplined by warnings	50.8	49.8	46.5	*	47.7	50.6	50.8	
81. typical misbehaviors (see #61) disciplined by threat or criticism	50.9	51.1	46.9	*	46.9	52.4	49.1	*
82. typical, non-disruptive misbehaviors (see #62) disciplined by management	50.2	49.7	52.8		53.4	48.0	50.3	*
83. typical, non-disruptive misbehaviors (see #62) disciplined by warnings	51.2	49.5	46.2	*	47.8	50.9	51.0	
84. typical, non-disruptive misbehaviors (see #62) disciplined by threat or criticism	50.6	51.6	47.9		47.7	52.3	49.2	*
85. typical, disruptive misbehaviors (see #63) disciplined by management	47.7	50.1	51.0		52.2	51.0	47.1	
86. typical, disruptive misbehaviors (see #63) disciplined by warnings	49.9	48.8	53.5		51.4	49.6	50.5	
87. typical, disruptive misbehaviors (see #63) disciplined by threat or criticism	50.1	51.1	45.2		45.8	50.0	49.7	
88. misbehaviors related to aggression toward teacher (see #64) disciplined by management	-	-	-		56.0	48.2	47.0	

	Attention (Would like to keep)				Concern (Requires special attention)			
	Low	Medium	High	p	Low	Medium	High	p
Proportion of:								
89. misbehaviors related to aggression toward teacher (see #64) disciplined by warnings	-	-	-		46.7	51.8	50.8	
90. misbehaviors related to aggression toward teacher (see #64) disciplined by threat or criticism	-	-	-		45.3	51.4	48.1	
91. misbehaviors related to peer aggression (see #65) disciplined by management	51.6	51.8	47.6		48.9	52.2	49.5	
92. misbehaviors related to peer aggression (see #65) disciplined by warnings	54.8	51.8	47.2		51.3	48.6	49.8	
93. misbehaviors related to peer aggression (see #65) disciplined by threat or criticism	50.2	48.3	51.3		48.1	47.8	50.1	
94. poor coping behaviors (see #66) disciplined by management	-	-	-		-	-	-	
95. poor coping behaviors (see #66) disciplined by warnings	-	-	-		-	-	-	
96. poor coping behaviors (see #65) disciplined by threat or criticism	-	-	-		-	-	-	

	Attention (Would like to keep)				Concern (Requires special attention)			
	Low	Medium	High	p	Low	Medium	High	p
Child Initiated Contacts								
Proportion of:								
97. dyadic contacts which were child initiated	48.2	49.9	50.3		52.9	50.4	48.2	*
98. child initiated contacts which were work related	48.7	50.6	50.8		49.8	49.8	49.9	
99. child initiated work contacts which were refused	54.1	49.9	48.1	**	47.8	49.3	51.3	
100. child initiated work contacts receiving brief feedback	48.8	48.6	52.3		52.0	50.0	48.8	
101. child initiated work contacts receiving long feedback	49.8	51.8	48.3		49.0	50.1	51.3	
102. child initiated work contacts receiving praise	51.2	50.8	48.3		50.0	48.8	51.9	
103. child initiated work contacts receiving criticism	50.2	49.7	49.8		48.2	49.5	49.8	
104. child initiated work contacts accompanied by teacher impatience	53.5	47.5	47.4	**	49.8	49.6	48.8	
105. child intiated contacts which were approval seeking	49.9	49.8	49.3		49.6	51.3	51.0	
106. child initiated approval seeking contacts which were refused	49.5	52.5	49.6		50.8	49.3	48.9	
107. child intiated approval seeking contacts which were given feedback	50.4	47.5	50.3		49.0	50.7	51.1	

Proportion of:	Attention (Would like to keep) Low	Medium	High	p	Concern (Requires special attention) Low	Medium	High	p
108. child initiated approval seeking contacts which were praised	49.0	48.2	53.1		52.4	49.0	51.7	
109. child initiated approval seeking contacts which were criticized	48.5	49.6	49.5		49.0	50.4	49.0	
110. child initiated contacts which were either work or approval seeking contacts	48.6	50.6	50.4		49.5	50.5	50.3	
111. child initiated work or approval seeking contacts which were praised	52.2	49.5	49.9		50.6	48.6	53.4	*
112. child initiated work or approval seeking contacts which were criticized	49.7	49.6	49.8		48.3	49.7	49.3	
113. child initiated contacts which were housekeeping	48.2	50.8	49.9		52.1	48.8	48.8	
114. child initiated housekeeping contacts which were refused	56.0	50.1	45.8	**	47.6	50.3	50.8	
115. child initiated housekeeping contacts which were approved	43.5	49.8	54.2	**	52.4	49.6	49.1	
116. child initiated housekeeping contacts receiving teacher thanks	50.2	51.4	48.1		49.4	50.9	49.9	
117. child initiated housekeeping contacts receiving teacher reward	48.9	49.1	49.9		51.2	49.1	48.6	
118. child initiated housekeeping contacts receiving teacher reward or thanks	49.8	50.2	48.2		50.7	49.8	49.4	

Proportion of:	Attention (Would like to keep) Low	Medium	High	p	Concern (Requires special attention) Low	Medium	High	p
119. child initiated contacts which were personal	52.3	49.7	49.5		49.6	50.5	49.9	
120. child initiated personal contacts which were refused	53.6	50.4	48.1	*	48.1	50.0	50.3	
121. child initiated personal contacts which were approved	46.0	49.5	52.2	*	51.8	49.9	49.6	
122. child initiated personal contacts which were accompanied by teacher warmth	48.3	51.8	49.0		50.1	49.0	51.3	
123. child initiated personal contacts which were accompanied by negative teacher reaction	48.7	50.5	47.7		47.5	51.3	49.3	
124. child initiated personal contacts accompanied by teacher reward	52.9	49.1	50.3	*	49.2	49.8	49.4	
125. child initiated contacts which were tattles	50.9	49.8	47.4		48.6	49.5	52.0	
126. child initiated tattles which were rejected	49.2	47.6	49.4		51.0	48.7	49.0	
127. child initiated tattles which were approved	50.8	52.4	50.6		49.0	51.3	51.0	
128. child initiated contacts which were social	51.4	48.7	50.3		50.6	48.5	49.6	

	Attention (Would like to keep)				Concern (Requires special attention)			
Proportion of:	Low	Medium	High	p	Low	Medium	High	p
129. child initiated social contacts which were refused	48.7	48.7	50.0		48.2	52.5	50.1	
130. child initiated social contacts which were given brief feedback	53.2	50.5	50.8		51.0	48.1	52.4	
131. child initiated social contacts which were given long feedback	47.4	49.5	48.7		49.9	49.6	47.5	
132. work contacts (private and public) receiving teacher praise	49.6	51.5	48.2		49.3	48.5	51.6	
133. work contacts (private and public) receiving teacher criticism	54.6	50.2	47.0	**	48.3	49.8	49.9	
134. all teacher afforded housekeeping and child initiated housekeeping and personal contacts receiving teacher rewards	51.7	48.8	51.3		51.0	49.0	48.9	
135. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a positive teacher reaction	48.5	51.3	48.5		50.6	50.1	50.0	
136. teacher afforded personal and social contacts and child initiated personal contacts accompanied by a negative teacher reaction	50.6	48.7	48.0		48.2	50.7	49.0	
137. dyadic contacts receiving a negative teacher reaction	53.4	49.9	46.4	**	47.7	50.1	49.8	

		Attention (Would like to keep)				Concern (Requires special attention)			
		Low	Medium	High	p	Low	Medium	High	p
	Proportion of:								
138.	dyadic contacts receiving a positive teacher reaction	48.1	51.8	48.8		50.5	48.8	50.1	
	Number of:								
139.	response opportunities per child	48.3	49.9	51.8		51.2	50.2	47.8	
140.	small group response opportunities per child	49.2	50.8	50.2		49.0	50.3	49.1	
141.	general class response opportunities per child	48.0	49.5	52.7	*	53.2	49.4	47.3	**
142.	teacher afforded contacts per child	56.6	48.7	48.4	**	48.3	48.7	52.4	*
143.	teacher afforded work contacts per child	56.9	49.3	48.4	**	48.3	49.1	52.6	*
144.	routine teacher afforded housekeeping contacts	48.8	48.9	50.6		50.0	49.0	49.8	
145.	routine teacher afforded personal contacts	53.8	49.0	49.1	**	49.7	49.4	51.8	
146.	routine teacher afforded social contacts	50.3	49.8	49.5		49.1	49.6	51.8	
147.	behavior related contacts	57.5	49.3	45.6	**	45.9	49.9	53.8	**
148.	times a teacher appointed a monitor	47.5	49.2	51.4	*	51.3	49.2	50.8	
149.	times a teacher held up a child's behavior as a good example for the rest of the class to follow	49.6	49.6	49.9		50.8	48.9	49.7	

		Attention (Would like to keep)				Concern (Requires special attention)			
		Low	Medium	High	p	Low	Medium	High	p
	Number of:								
150.	times a teacher held up a child's behavior as a bad example	52.5	49.4	49.4	*	48.9	49.3	52.2	**
151.	times a teacher flattered a child	49.1	49.7	51.3		50.6	49.3	50.3	
152.	times a teacher displayed physical affection toward a child	50.6	50.8	49.0		49.5	49.7	52.2	
153.	times a teacher engaged in some other type of behavior coded in the Adult Critical Incidents section	50.1	49.2	49.0		50.5	49.6	50.4	
154.	child initiated contacts per child	52.5	49.3	48.7		50.6	50.0	49.0	
155.	child initiated work contacts per child	52.1	49.9	49.7		50.9	50.4	48.8	
156.	child initiated approval seeking contacts per child	51.5	49.1	50.0		51.1	50.5	50.0	
157.	child initiated housekeeping contacts per child	49.2	50.3	49.3		51.8	48.3	49.8	
158.	child initiated personal contacts per child	52.2	49.0	48.6		49.9	49.8	49.1	
159.	teacher afforded work praise contacts	50.3	50.7	48.9		49.6	49.6	51.2	
160.	teacher afforded work criticism contacts	53.6	50.0	47.4	**	48.4	50.1	49.4	
161.	teacher afforded positive evaluations	50.0	50.0	48.9		51.4	49.7	49.6	

	Attention (Would like to keep)				Concern (Requires special attention)			
	Low	Medium	High	p	Low	Medium	High	p
Number of:								
162. teacher afforded negative evaluations	50.8	48.5	47.8		48.3	50.6	48.6	
163. teacher afforded contacts which served as rewards	52.0	48.6	50.7		50.4	48.4	50.0	
164. dyadic contacts per child	55.6	48.9	47.7	**	48.2	49.7	51.9	

[1]Group means are standardized proportions ($\bar{x}$ = 50.0, SD = 10.0).

[2]Probability values are indicated by asterisks. $p \leq .05$, where one asterisk appears; $p \leq .01$, where two asterisks appear.